CLAIMS

1.   A method for processing data packets in a router having a
plurality of input ports, a plurality of output ports and more than
one packet processing unit for deriving from a piece of information
associated to each data packet one of said plurality of output
ports to forward said data packet to,
said method comprising the steps:
     determining one packet processing unit of said more than one
packet processing units in response to an appearance of a data
packet at one of said input ports;
     requesting from said determined packet processing unit an
identification of a respective output port derived from a piece of
packet information indicating where to forward said data packet to;
and
     forwarding said data packet to said identified output port.

2.   The method according to claim 1, wherein said packet
processing units derive from said piece of information associated
to each data packet additional information about a desired packet
treatment and alterations to be applied to the data packet, said
requesting from said determined packet processing unit includes a
request for an identification of what desired treatment and what
alterations are to be applied to the data packet, and said method
further comprises a step of applying said desired treatment and
said alterations to the data packet.

3.   The method according to claim 1, wherein said piece of
information includes a destination address associated to each data
packet.

4.   The method according to claim 1, wherein determining one
packet processing unit is based on a split of an identifier vector

space formed by the complete range of identifier vectors consisting of a set of fields included in the said data packets.

5.   The method according to claim 4, wherein the split of the identifier vector space is determined by assigning to each packet processing unit a numerical quantity resulting of a pseudorandom function (rand) of an identifier indicating said particular packet processing unit and a piece of information (identifier vector) associated to the data packet to be processed and selecting said packet processing unit having the highest numerical quantity assigned.

6.   The method according to claim 1, wherein determining one packet processing unit is additionally based on information about the workload of every single packet processing unit, whereby said information about the workload is periodically provided to be utilized for determining one packet processing unit.

7.   The method according to claim 1, wherein the packet processing units exploit the knowledge of the method of determining the particular packet processing unit for processing the data packet in order to advantageously adjust their packet processing methods to take advantage of the said knowledge.

8.   A system for processing data packets in a router having a plurality of input ports, a plurality of output ports and more than one packet processing unit for deriving from a piece of information associated to each data packet one of said plurality of output ports to forward said data packet to,
said system comprising

means for determining one packet processing unit of said more than one packet processing units in response to an appearance of a data packet at one of said input ports,

means for requesting from said determined packet processing unit an identification of a respective output port derived from a piece of information indicating where to forward said data packet to and

means for forwarding said data packet to said identified output port.

9.   The system according to claim 8, whereby said packet processing units derive from said piece of information associated to each data packet additional information about a desired packet treatment and alterations to be applied to the data packet, said means for requesting from said determined packet processing unit are thus prepared to request an identification of what desired treatment and what alterations are to be applied to the data packet, and said system further comprises means for applying said desired treatment and said alterations to the data packet.

10.   The system according to claim 8, wherein the piece of information includes the destination address associated to each data packet.

11.   The system according to claim 8, whereby said system is situated at an input port.

12.   The system according to claim 8, whereby said system comprises a packet processing unit for deriving from a piece of information associated to each data packet one of said plurality of output ports to forward said data packet to.

13.   A router having a plurality of input ports, a plurality of output ports and more than one packet processing unit for deriving from a piece of information associated to each data packet one of said plurality of output ports to forward said data packet to,

characterized by a system for processing data packets according to claim 8.

14. A computer program product stored on a computer usable medium, comprising computer readable program means for causing a computer to perform a method according to claim 1.